Message

From: LEE, LILY [LEE.LILY@EPA.GOV]
Sent: 12/10/2018 5:17:40 PM
To: Fong, YvonneW [Fong.YvonneW@epa.gov]; Chesnutt, John [Chesnutt.John@epa.gov]
Subject: Re Comment #6 FW: Concord RAD
Attachments: CNWS0114 Draft Rad Survey Plan.docx; RadRiskQAwithtransmitmemo_June_13_2014.pdf

I don't have the context for Concord and in-depth knowledge of MARSSIM. In case she is helpful, my statistician is Donna Getty from Leidos – cell 215-962-9929. It is important for EPA to have consistency across sites, so please call her if you want to get more information. Donna.j.getty@leidos.com. I thought I put similar language in another set of comments on another document, but I can't put my finger on it right now. Let me know if you need me to look harder.

EPA internal talking pts 5/10/2018:

- The Hunters Point G ROD states, "remedial actions will occur to meet remedial goals . . . . excavated areas will be surveyed after cleanup is completed to ensure that no residual radioactivity is present at levels above the remediation goals."

- Long-standing USEPA HQ Policy is that even if MARSSIM allows that, Hunters Point historically and EPA sites nationwide uses a "Not To Exceed" approach, i.e., any result above the cleanup goal must be excavated.

- The approach for radiological cleanup must be consistent in both radiological and chemical contamination. At Hunters Point, the chemical contamination uses the "Not To Exceed" approach.

For context, here are excerpts from EPA Guidance
OSWER Directive 9200.4-40, EPA 540-R-012-13, May 2014

RadRiskQAwithtr...

Not To Exceed vs. Area Averaging

1. Hunters Point Naval Shipyard Parcel G ROD: "Should unrestricted release not be achieved, further remedial actions will occur to meet remedial goals established in the ROD. . . . Buildings, former building sites, and excavated areas will be surveyed after cleanup is completed to ensure that no residual radioactivity is present at levels above the remediation goals. Excavated soil, building materials, and drain material from radiologically impacted sites will be screened and radioactive sources and contaminated soil will be removed and disposed of at an off-site low-level radioactive waste facility."

2. 2014 EPA HQ Rad Risk Q&A: "There are two general sampling approaches for determining what is contaminated for site characterization or demonstrating compliance with cleanup levels; a not-to-exceed (NTE) or area averaging (AA) approach. In general, the same sampling approach should be used for

both radionuclide and chemical contaminants in the same medium at the same site (e.g., soil, groundwater, surface water, air, or buildings) to facilitate a consistent approach for addressing radionuclides and chemicals; . . . Under most residential situations and other nonrandom exposure situations, remediating with the AA approach may not be protective of human receptors."

3. EPA wrote in Comment #25 on the Navy's Draft Work Plan, Radiological Survey and Sampling, February, 2018:

"… the MARSSIM WRS test is a non-parametric statistical test designed to compare population estimators (median) of the survey unit data to the median of the background data to determine if the two data sets have the same distributions. Including the WRS in documentation is valuable to demonstrate compliance with MARSSIM requirements, so please include that in future reports. However, it is not designed to demonstrate that individual results meet a 'not to exceed' remedial goal limit. As such, the results of the WRS test cannot be used directly to demonstrate that further excavation should not be conducted. A point-by-point comparison of the data to the ROD-specified release limits will need to be completed in addition to demonstrate that results are below these release limits."

Here is language from potentially relevant EPA comments at HP:

From 3/26/2018:

The fifth bulleted item in Section 6 (Data Evaluation) and Figures 6-2 (Group 1 Soil Data Evaluation Process) and 6-3 (Group 2 Soil Data Evaluation Process) indicate that the Derived Concentration Guideline Level for the wide area (DCGLw) test will be used to evaluate sample results for compliance with release criteria. However, it is unclear why the Work Plan refers to the DCGLw test instead of the Wilcoxon Rank Sum (WRS) test. For clarity in the Work Plan, all references to the DCGLw test should be replaced with the MARSSIM terminology, 'WRS test.' Please revise the Work Plan to replace all references to the 'DCGL test' with 'WRS test,' where appropriate.

Furthermore, the MARSSIM WRS test is a non-parametric statistical test designed to compare population estimators (median) of the survey unit data to the median of the background data to determine if the two data sets have the same distributions. Including the WRS in documentation is valuable to demonstrate compliance with MARSSIM requirements, so please include that in future reports. However, it is not designed to demonstrate that individual results meet a 'not to exceed' remedial goal limit. As such, the results of the WRS test cannot be used directly to demonstrate that further excavation should not be conducted. A point-by-point comparison of the data to the ROD-specified release limits will need to be completed in addition to demonstrate that results are below these release limits. Please ensure that the Work Plan and future TSPs require a point-by-point comparison of the data to the ROD-specified release limits.

Concord

Draft General Comment #6

Section 5.5 (Wilcoxon Rank Sum Test)(WRS) does not clearly state the requirements for notification of the Navy Radiological Affairs Service Office (RASO). The text indicates that RASO will not be notified if individual measurements exceed the DCGL release criteria as long as the survey unit as a whole passes using the WRS test. However, it is unclear if the requirement to conduct the WRS test will be applied to the scoping surveys, or only to the FSS results. In addition, the failure of any single location to meet the release criteria indicates the survey unit was misclassified as a Class 3 area. The FSS and application of the WRS test should only be implemented after scoping and characterization surveys or other such defensible data are available to

appropriately identify the correct MARSSIM classification prior to performing the FSS. In addition, in accordance with Section 6.1.3 (Characterization Surveys), if radionuclide concentrations exceeding the project DCGL are identified during the final status surveys, the area will be identified as contaminated and will require further characterization. Therefore, Section 5.5 should be revised to state that if any location is found to have contamination above the DCGL, a new characterization of the survey unit will be conducted prior to implementing a new FSS. In addition, once contamination above the DCGL is identified, the survey unit will require re-classification as a Class 1 survey unit. Finally, Section 5.5 should be revised to require that RASO and the regulators be notified of any data that indicates contamination is present above the DCGL so that the owner (the Navy) can implement the appropriate next steps to characterize and appropriately classify survey units for the design of the FSS. Please revise the Plan to address these concerns.

From: Chesnutt, John
Sent: Friday, December 7, 2018 5:00 PM
To: LEE, LILY <LEE.LILY@EPA.GOV>
Subject: FW: Concord RAD

See general comment 6. I don't have the plan itself to see what it says.

CNWS0114 Draft
Rad Survey Plan...